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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/456,371	12/08/1999	HEINRICH BOLLMANN	12010	6395

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BASF CORPORATION
LEGAL DEPARTMENT
1609 BIDDLE AVENUE
WYANDOTTE, MI 48192

EXAMINER

CHANG, VICTOR S

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 01/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)	
09/456,371	BOLLMANN ET AL.	
Examiner	Art Unit	
Victor S Chang	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 19, 20, 22-24, 29 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 19, 20, 22-24, 29 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

1. The Examiner has carefully considered Applicant's amendments and remarks filed on 11/14/2003. Applicant's amendments to the specification, claims 1 and 19, and newly added claim 30 and Figs. 1-3 have all been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Rejections not maintained are withdrawn. In particular, Applicants' arguments with respect to claims 1, 19, 20, 22-24, 29 and 30 have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 29 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regards as the invention.

The Examiner repeats (see Paper No. 20, Advisory) that newly amended claim 1 now recites a subcombination of a damping element in the preamble, whereas the recitation at lines 11-16 appears to be directed to an embodiment of a combination of the damping element and a device housing the element, which renders the instantly claimed invention vague, indefinite and confusing, because it is unclear whether the

invention is just the damping element in the preamble, or the damping element and the device housing element together. Clarification is requested. For the purpose of this Office action, since amended claim 19 now positively recites the damping element and the device housing element together, it is presumed that claims 1, 29 and 30 are directed to the damping element in the preamble only. Otherwise, claims 1 and 20 (which is dependent upon claim 19) appear to be *de facto* duplicates.

As such, in claim 1, the Examiner suggests to insert --is adapted to be-- before received. It should be noted that "is adapted to" is not a positive recitation, and clarifies the presumed instant invention.

Finally, at line 1, please insert --for-- before "replacing", as it appears to be a recitation of usage in the preamble, and it should be noted that statements of contemplated usage are patentably irrelevant. Alternatively, the Examiner would like to suggest rewriting it as a process of use claim, if there is proper support in the Specification.

Response to Amendment

6. Claims 1, 19, 20, 22-24, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauvois (US 5288442).

Bauvois' invention is directed to a process for the manufacture of a molded structure, which comprises stiffening or reinforcing elements and/or various mechanical elements such as, for example, damping elements, etc. (column 1, lines 7-20). Bauvois teaches that it is known art to mold a structure by pressing (i.e., placing) the constituent elements of the structure against the walls of the mould, and finally injecting a

polymerizable foam into the space thus provided (column 1, lines 55-61). In one embodiment, a structural element consists of thermoplastic polyurethanes (TPU) is placed inside the mold (column 2, lines 63-68), and the constituents of a polyurethane foam, namely a polyol and an isocyanate, are injected. The resulting polyurethane foam expands *in situ* and forms the final structure which confers its ultimate shape of the mold (column 4, lines 18-29).

For claim 1, Bauvois is silent about the thickness of the structural element of TPU (which is inherently a reaction product of isocyanates and isocyanate reactive compounds). However, it is believed that a suitable thickness is either inherently disclosed for a structural element, or an obvious optimization to one of ordinary skill in the art, motivated by the desire to provide adequate mechanical strength. As to the density of the microcellular foam, and various mechanical properties, it is also believed to be either inherently disclosed by Bauvois' polyurethane foam for damping elements, or an obvious optimization to one of ordinary skill in the art, motivated by the desire to provide suitable damping properties. Note also as evidence of the state of the art Krech (US 6063824), which was previously cited (see Paper No. 14, page 3) as teaching a microcellular polyurethane elastomer for a vibration and shock damping system, which has a density, tensile strength, elongation at break and tear propagation resistance within the ranges of the instantly claimed element.

For claims 19 and 20, Bauvois teaches a damping element as a shock-absorber of a ski (column 1, line 10). It should be noted that the phrase "capable of" at line 3 of claim 19 is not a positive limitation, as such it does not constitute a limitation in any patentable sense.

For claims 22-24 and 29, Bauvois is silent about the bonding between the TPU and the polyurethane foam. However, in the absence of unexpected results, it is believed that forming a polyurethane foam *in situ* over a polyurethane surface inherently forms a firm chemical bond at the interface, as evidenced by the state of the art Hoppe et al. (US 4447486), which teaches that a firm adhesion is obtained between a polyurethane film and a molding of a damping element of polyurethane foam (column 13, lines 36-40). It should be noted that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. See MPEP § 2112.01.

For claim 30, although Bauvois does not expressly teach the ratio of isocyanate groups to isocyanate reactive groups of greater than 1.06:1, in the absence of unexpected results, a suitable aforementioned ratio for forming a TPU element is believed either inherently disclosed, or an obvious optimization to one of ordinary skill in the art, motivated by the desire to obtain a TPU with adequate chain extension to obtain high molecular weight and suitable mechanical properties, as evidenced by the state of the art Zeitler et al. (US 5288549), which was previously cited (see Paper No. 14, page 2) as teaching a thermoplastic polyurethane elastomer having a thickness of from 2 to 8 mm and a ratio of isocyanate groups to isocyanate reactive groups in a range from 0.85:1 to 1.1:1, so as to obtain required rigidity.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In addition, the following references are cited of interest for making polyurethane damping elements:

Barnes et al. (US 4605729) which teaches the production of cellular elastomer coatings by RIM for vehicle damping elements (column 8, line 55 to column 9, line 2).

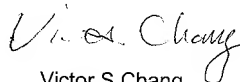
Wagner et al. (US 5109035) which teaches multilayer materials are molded and joined firmly to one another to form small damping elements (column 6, lines 12-18; column 7, lines 21-25).

Plaz et al. (US 6497782) which teaches a composite article formed of thermoplastic and foamed or unfoamed polyurethane elastomer (Abstract).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor S Chang whose telephone number is 571-272-1474. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-0994.



Victor S Chang
Examiner
Art Unit 1771